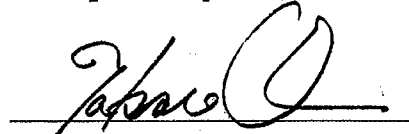


D E C L A R A T I O N

I, TAKAO OCHI, a Japanese Patent Attorney registered No.10149, of Okabe International Patent Office at No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo, Japan, hereby declare that I have a thorough knowledge of Japanese and English languages, and that the attached pages contain a correct translation into English of the priority documents of Japanese Patent Application No.2002-251713 filed on August 29, 2002 in the name of CANON KABUSHIKI KAISHA.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this *28th* day of April, 2009

A handwritten signature in black ink, appearing to read 'Takao Ochi', is written over a horizontal line.

TAKAO OCHI

PATENT OFFICE  
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application  
as filed with this Office.

Date of Application: August 29, 2002

Application Number: Japanese Patent Application No. 2002-251713  
[ST. 10/C]: [ 2002-251713 ]

Applicant(s): CANON KABUSHIKI KAISHA

September 16, 2003

Commissioner,  
Patent Office YASUO IMAI (Seal)

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2002-251713

[Name of the document]	Patent Application
[Reference No.]	4774028
[Date]	August 29, 2002
[Addressed to]	Commissioner, Patent Office
[International Classification]	H04N 5/00
[Title of the Invention]	Image Processing Method, Image Processing Apparatus, Program, And recording Medium
[Number of the Claims]	14
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[Indication of Official Fee]	
[Prepayment Ledger No.]	035493
[Amount]	¥21,000
[List of Filed Materials]	

2002-251713

[Material]	Specification	1
[Material]	Drawings	1
[Material]	Abstract	1
[General Power of Attorney]	9705348	
[Proof Requirement]	Required	

2002-251713

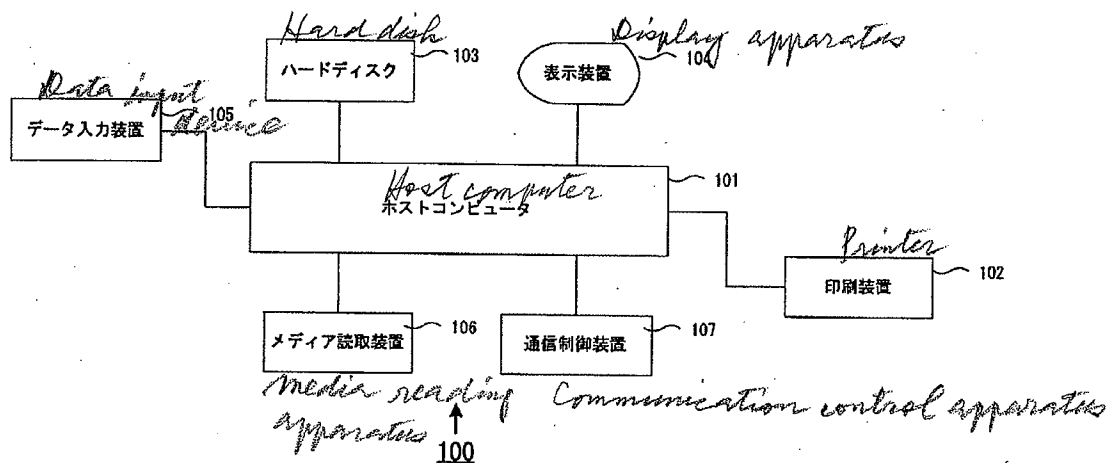
Applicant's Information

Identification No. [000001007]  
1. Date of Change: August 30, 1990  
(Reason of Change) New Registration  
Address: 3-30-2, Shimomaruko, Ohta-ku, Tokyo  
Name: CANON KABUSHIKI KAISHA

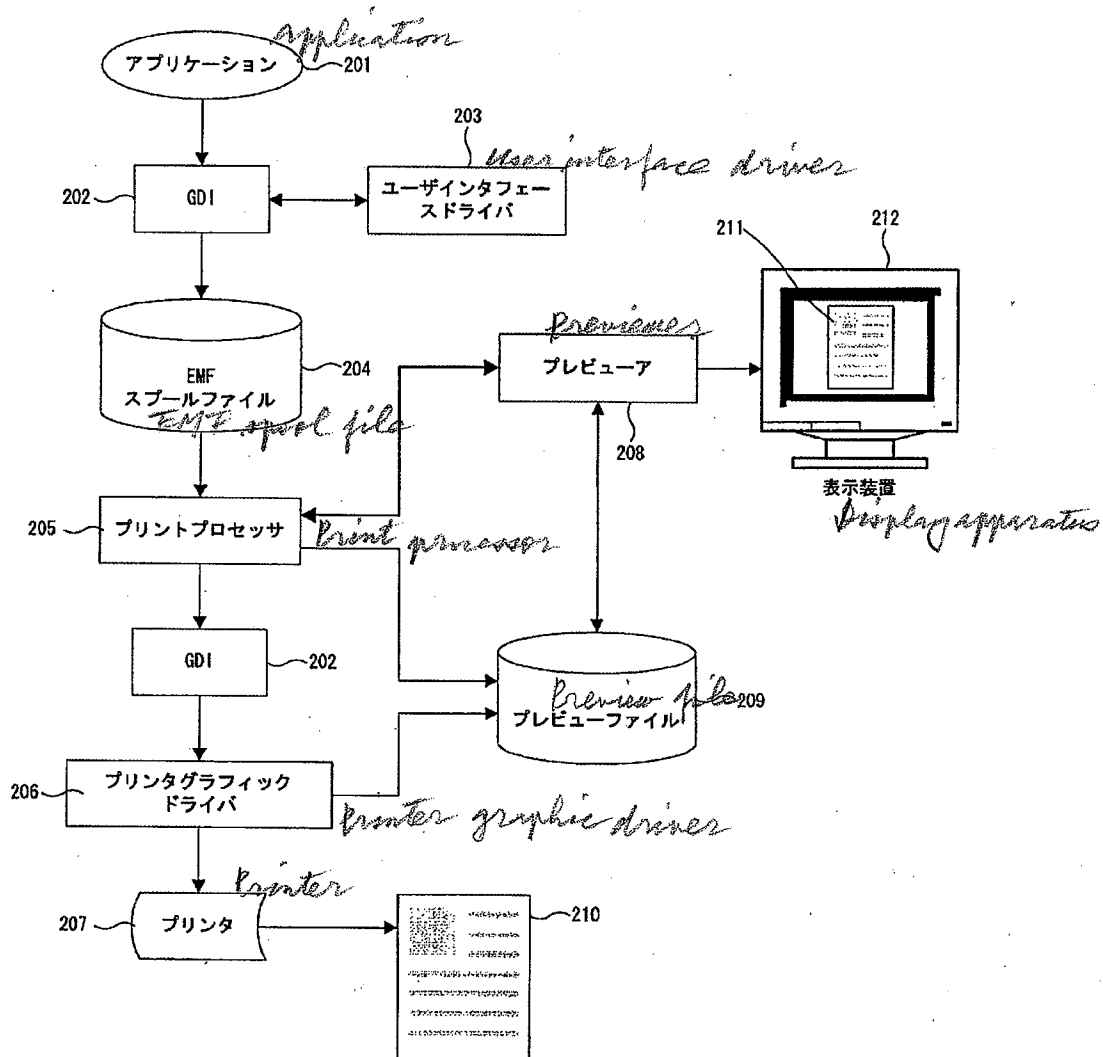
2002-251713

【書類名】 図面 (name of the document) Drawings

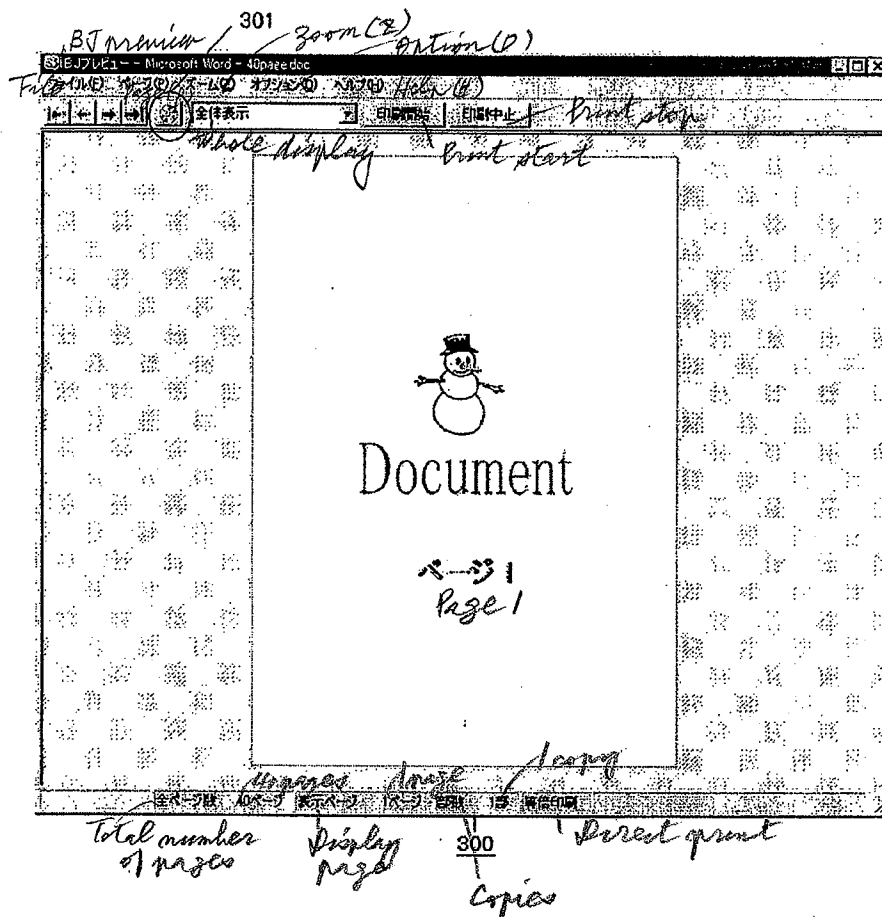
【図1】 Fig. 1



【図2】 Fig. 2



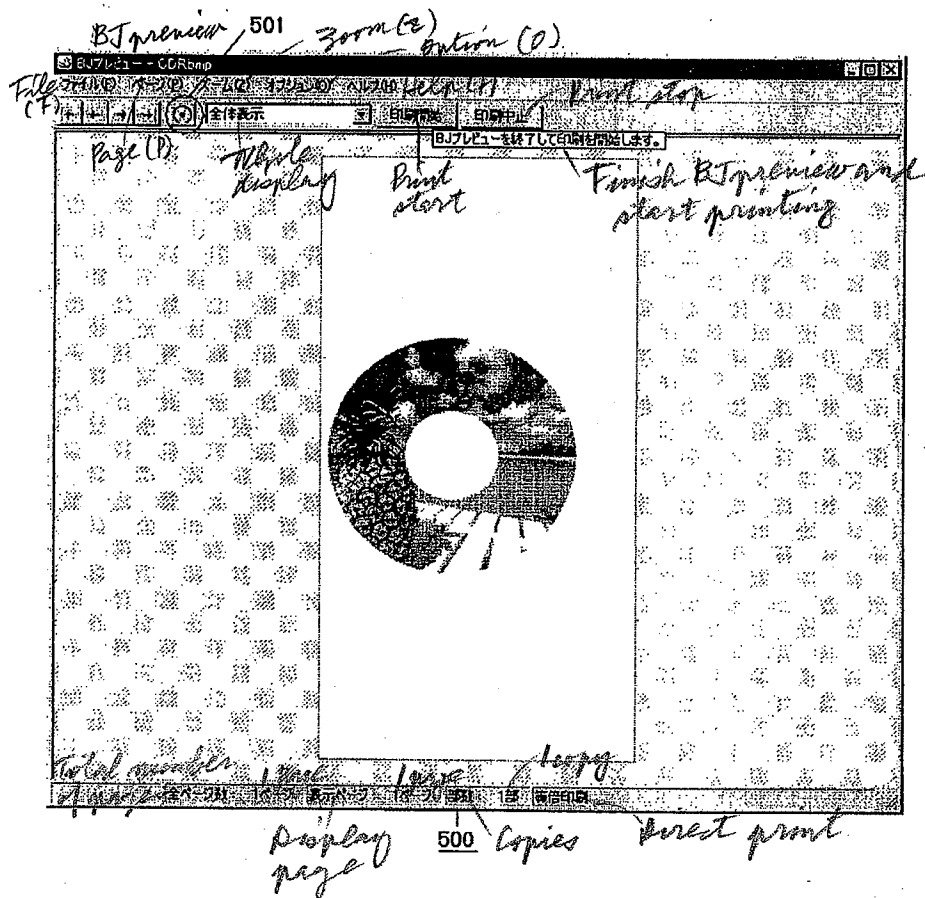
【図3】 Fig.3



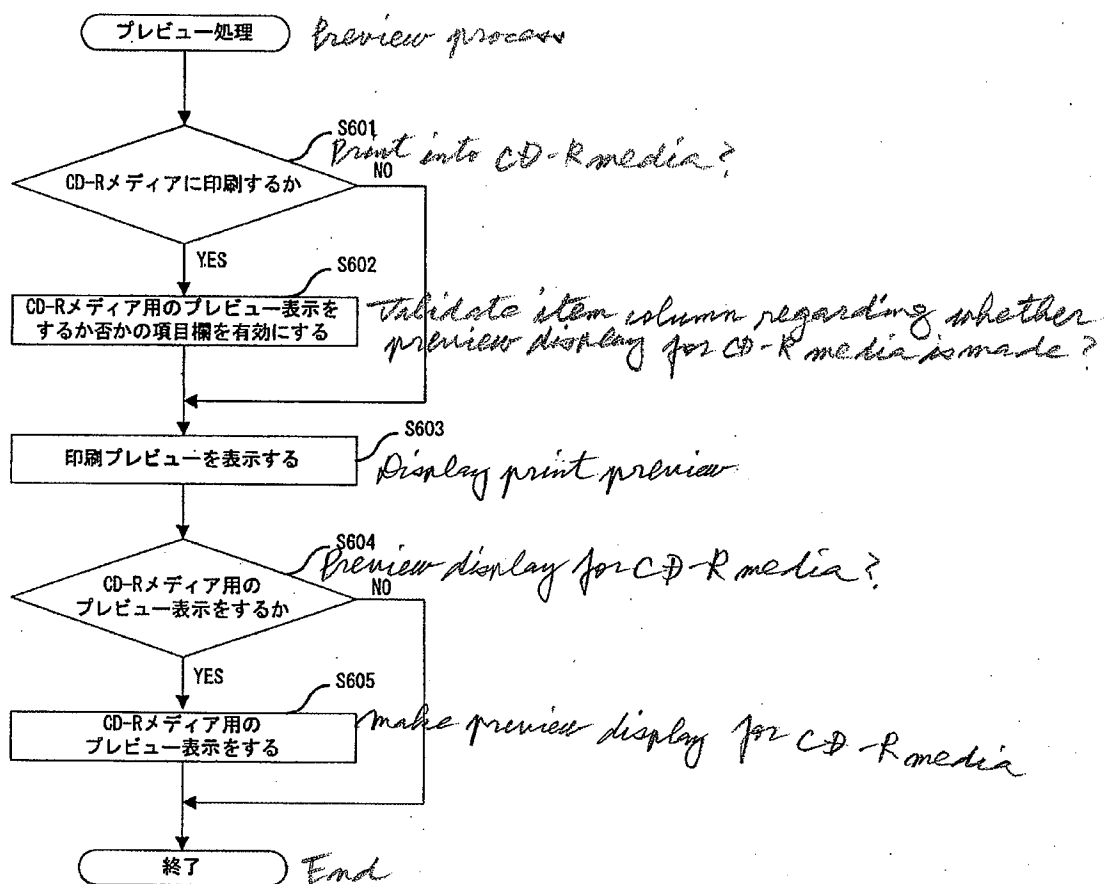




【図5】 *Fig. 5*



【図6】 Fig.6



251713/2002

[Name of the Document]	Specification
[Title of the Invention]	Image Processing Method, Image Processing Apparatus, Program, And recording Medium

[What is Claimed is]

[Claim 1]

An image processing method which is used to confirm a layout when an image is formed onto a recording medium on the basis of an application, comprising:

an image forming step of forming the image based on said application; and

a display control step of controlling a process for displaying said image so that a portion corresponding to an inside of said recording medium of the image formed in said image forming step and a portion corresponding to an outside of said recording medium can be discriminated.

[Claim 2]

A method according to claim 1, further comprising a discriminating step of discriminating, by discriminating means, whether a first mode of forming the image onto a first recording medium having a shape which is matched with a layout corresponding to a general application has been set

or a second mode of forming the image onto a second recording medium having a shape which is mismatched with the layout corresponding to said general application has been set,

and wherein if it is determined in said discriminating step that said second mode has been set, said display control step is executed.

[Claim 3]

A method according to claim 2, wherein said first recording medium is in a rectangular shape while the second recording medium is in a shape other than a rectangular shape.

[Claim 4]

A method according to claim 3, wherein said second recording medium is in a disk shape.

[Claim 5]

A method according to claim 2, further comprising a selecting step of selecting, by selecting means, whether said display control step is executed or not,

and wherein if it is determined by said discriminating step that said second mode has been set and if it is selected by said selecting step that said display control step is executed, said display control step is executed.

[Claim 6]

A method according to claim 1, wherein

said image processing method is a method which is used to display a print preview of print data formed by an arbitrary application before said print data is print-processed, and

in said display control step, in the case of print-outputting said print data onto said recording medium in a disk shape including a CD or a DVD, a process for displaying said image so that a difference between a portion which is printed onto said disk-shaped recording medium and a portion which is printed to an outside of said disk-shaped recording medium can be visually discriminated.

[Claim 7]

An image processing apparatus comprising:

image forming means for forming an image which is formed onto a recording medium on the basis of an application; and

display control means for controlling a process for displaying said image so that a portion corresponding to an inside of said recording medium of the image formed by said image forming means and a portion corresponding to an outside of said recording medium can be discriminated.

[Claim 8]

An apparatus according to claim 7, further comprising discriminating means for discriminating whether a first mode of forming the image onto a

first recording medium having a shape which is matched with a layout corresponding to a general application has been set or a second mode of forming the image onto a second recording medium having a shape which is mismatched with the layout corresponding to said general application has been set,

and wherein if it is determined by said discriminating means that said second mode has been set, said display control means controls said displaying process.

[Claim 9]

An apparatus according to claim 8, wherein said first recording medium is in a rectangular shape while the second recording medium is in a shape other than a rectangular shape.

[Claim 10]

An apparatus according to claim 9, wherein said second recording medium is in a disk shape.

[Claim 11]

An apparatus according to claim 8, further comprising selecting means which can select whether said display control step is executed or not,

and wherein if it is determined by said discriminating means that said second mode has been set and if it is selected by said selecting means that said display control step is executed, said

display process is controlled.

[Claim 12]

An apparatus according to claim 7, wherein before print data formed by an arbitrary application is print-processed, said display control means controls a process for displaying a print preview of said print data, and in the case of print-outputting said print data onto said recording medium in a disk shape including a CD or a DVD, said display control means controls a process for displaying said image so that a difference between a portion which is printed onto said disk-shaped recording medium and a portion which is printed to an outside of said disk-shaped recording medium can be visually discriminated.

[Claim 13]

A program for allowing a computer to execute an image processing method which is used to confirm a layout when an image is formed onto a recording medium on the basis of an application, wherein said program comprises:

an image forming step of forming the image based on said application; and

a display control step of controlling a process for displaying said image so that a portion arranged to an inside of an image forming area of said recording medium of the image formed in said image forming step and a portion arranged to an



outside of said image forming area can be discriminated.

[Claim 14]

A computer-readable memory medium which stores a program according to claim 13.

[Detailed Description of the Invention]

[0001]

[Field of the Industrial Utilization]

The invention relates to an image processing method, an image processing apparatus, a program, and a recording medium, by which, for example, before print data is actually print-outputted, a print preview of the print data is displayed.

[0002]

[Prior Art]

Hitherto, for example, in an information processing apparatus such as a personal computer or the like, in the case where print data such as document, image, or the like edited by an application for document editing or image editing is print-outputted onto a sheet by a printing apparatus, a print preview for previously displaying a print result by an analysis or the like of the print data is executed before a print output executing command is transmitted to the printing apparatus.

[0003]

However, in the conventional print preview,

there is a problem such that when image data is arranged out of a printable area, a lack is caused in a printed image, or an image is forcedly reduced so as not to cause a lack in the print result, so that an unexpected layout is obtained.

[0004]

In the application, for example, since it is impossible to edit the print data on the basis of the sheet of the same size as that of a CD-R media, the print data is edited on the basis of the sheet selected by the application irrespective of whether the print data is print-outputted to the CD-R media or not. Therefore, in the print preview which is displayed in the case of print-outputting the print data to the CD-R media, contents which would be outputted onto the sheet selected by the application are displayed.

[0005]

In the case of actually print-outputting the print data to the CD-R media by the printing apparatus, it is necessary to set the CD-R media onto a dedicated tray or the like and, thereafter, set the tray into the printing apparatus instead of directly setting the CD-R media into the printing apparatus.

[0006]

[Problems to be Solved by the Invention]

In the case of print-outputting the print

data to the CD-R media, a media to which the print data is actually print-outputted is not the sheet selected by the application but the CD-R media (accurately, the dedicated tray set into the printing apparatus). However, in the conventional print system including the displaying method of the print preview as mentioned above, although the contents which would be outputted onto the sheet selected by the application can be confirmed by the print preview before the print data is print-outputted onto the CD-R media, contents which would be outputted onto the CD-R media set onto the dedicated tray cannot be accurately confirmed. Therefore, in the case where the print data is directly print-outputted, there is a risk such that the print data is outputted so as to overflow the CD-R media and the dedicated tray is dirtied.

[0007]

The invention is made in consideration of the above problems and it is an object of the invention to provide an image processing method, an image processing apparatus, a program, and a recording medium, by which an image which is printed onto a recording medium (for example, a CD-R media) so as to overflow it can be previously grasped.

[0008]

[Means for Solving the Problems]

To accomplish the above aspect, according to the first aspect of the invention, there is provided an image processing method which is used to confirm a layout when an image is formed onto a recording medium on the basis of an application, comprising: an image forming step of forming the image based on the application; and a display control step of controlling a process for displaying the image so that a portion corresponding to the inside of the recording medium of the image formed in the image forming step and a portion corresponding to the outside of the recording medium can be discriminated.

[0009]

According to the second aspect of the invention, there is provided an image processing apparatus comprising: image forming means for forming an image which is formed onto a recording medium on the basis of an application; and display control means for controlling a process for displaying said image so that a portion corresponding to an inside of said recording medium of the image formed by said image forming means and a portion corresponding to an outside of said recording medium can be discriminated.

[0010]

According to the third aspect of the invention, there is provided a program for allowing a computer to execute an image processing method which

is used to confirm a layout when an image is formed onto a recording medium on the basis of an application, wherein said program comprises: an image forming step of forming the image based on said application; and a display control step of controlling a process for displaying said image so that a portion arranged to an inside of an image forming area of said recording medium of the image formed in said image forming step and a portion arranged to an outside of said image forming area can be discriminated.

According to the third aspect of the invention, there is further provided a computer-readable memory medium which stores the above-described program.

[0011]

[Detailed Description of the Preferred Embodiments]

Embodiments of the invention will be described in detail hereinbelow with reference to the drawings.

First, a construction of a print system according to an embodiment will be schematically explained. Fig. 1 is a block diagram showing the schematic construction of the print system according to the embodiment.

A print system 100 according to the embodiment displays a print preview by a display

apparatus 104 before print data such as document, image, or the like formed by an application which can be activated by a personal computer or the like as a preferred embodiment of an image processing apparatus of the invention is print-outputted onto a sheet by a printing apparatus (or a printer) 102. Usually, the image processing apparatus is not limited to the foregoing personal computer but can be a workstation or the like and, further, includes a copying apparatus, a printer (not shown), or the like having a display unit which enables a preview. Further, the print system is constructed in a manner such that in the case of print-outputting onto a CD-R media, not only contents which would be outputted onto the sheet selected by the application but also a portion to be actually outputted onto the CD-R media, that is, a portion corresponding to the inside of the CD-R media and a portion which is outputted to the CD-R media so as to overflow it, that is, a portion corresponding to the outside of the CD-R media are displayed so that they can be visually discriminated. Thus, a print preview function of better use convenience can be provided.

[0012]

The construction and the operation of the print system 100 according to the embodiment will be specifically explained.

<Whole construction of the print system 100>

As shown in Fig. 1, the print system 100 has a construction such that the printer 102, a hard disk apparatus 103, the display apparatus 104, a data input device 105, a media reading apparatus 106, and a communication control apparatus 107 are connected to a host computer 101, respectively.

[0013]

The host computer 101 executes a predetermined system program, thereby controlling and monitoring the whole operation of the print system 100. Specifically speaking, for example, the host computer 101 has computer functions including a CPU (Central Processing Unit), a RAM (Random Access Memory), a ROM (Read Only Memory), and the like arranged on a system board as will be explained hereinlater. The CPU properly reads out a desired processing program from a built-in memory, the hard disk 103 externally attached, or the like and executes it, thereby controlling the whole operation of the print system 100.

[0014]

For example, a storing destination of various programs which are executed by the host computer 101 is assumed to be the hard disk 103. A processing program to realize the operation in the embodiment, various applications to form the print data, and the

like have been stored in the hard disk 103.

[0015]

The storing destination of the processing program (program codes) to realize the operation in the embodiment is not limited to the hard disk 103 or the built-in memory. For example, it is also possible that the processing program is recorded into a portable recording medium such as CD-ROM, flexible disk, or the like in a form in which it can be read out by the host computer 101, the recording medium is circulated, when the print system 100 is constructed, the host computer 101 reads out the processing program via the media reading apparatus 106 or the communication control apparatus 107 and installs it onto the hard disk 103.

Although, for example, "Windows (registered trademark)" is used as an OS (Operating System) of the host computer 101 in the embodiment, the invention is not limited to it.

[0016]

When the printer 102 receives information such as print conditions or the like together with the print data from the host computer 101, it print-outputs (an image is formed) the print data onto a print sheet by executing a predetermined printing process. For example, various printers such as serial printer, page printer, other printers of an



electronic copying type, and the like can be applied as a printer 102. Also with respect to a connecting form of the printer 102 and the host computer 101, for example, various connecting forms such as stand-alone connection, network connection, and the like can be applied.

[0017]

The display apparatus 104 displays a predetermined dialog window in response to an instruction according to the execution of the system program, application, or the like from the host computer 101. Particularly, the display apparatus 104 displays a print preview as a feature of the embodiment, which will be explained in detail hereinlater, in accordance with the instruction from the host computer 101.

[0018]

The data input device 105 includes a keyboard, a mouse, other pointing devices, and the like receives various instructions from the user, and notifies the host computer 101 of them. For example, the data input device 105 notifies the host computer 101 of print conditions for the printer 102 and display conditions of the print preview (hereinafter, referred to as "preview display conditions") which were inputted from the user.

[0019]

The media reading apparatus 106 is an apparatus including a CD-ROM drive, a flexible disk (FD) drive, and the like and supplies information read out from the recording medium such as CD-ROM, FD, or the like to the host computer 101. The communication control apparatus 107 is a connecting interface for connecting, for example, the print system 100 and an external network so that they can communicate with each other.

[0020]

<Functional construction of the print system 100>

Fig. 2 is a functional constructional diagram in the case where attention is paid to, particularly, the print control function among the functions of the print system 100 which are realized when the host computer 101 executes a predetermined processing program.

As shown in Fig. 2, the print control function by the host computer 101 includes: an application 201; a GDI (Graphics Device Interface) 202; a user interface (UI) driver 203; a spool file 204; a print processor 205; a printer graphics driver 206; a previewer 208; and a preview file 209.

[0021]

First, the main functions included in the print control function by the host computer 101 will be described.

The user interface driver 203 has a function for setting the print conditions into the printing apparatus (or a printer) 102 via the GDI 202. Specifically speaking, for example, the UI driver 203 has a function for setting a size of sheet and a media which are used for printing and other print conditions and has a function for setting whether the print preview is displayed by the display apparatus 104 before the printing is executed or not. It is now assumed that a mode in which the print preview is displayed by the display apparatus 104 before the printing is executed has been set by the UI driver 203.

[0022]

The print processor 205 has a function for processing page by page the print data stored in the spool file 204 and a function for activating the previewer 208. The printer graphics driver 206 has a function for converting the print data into bit map data which can be print-outputted by the printer 102. The previewer 208 has a function for displaying print preview data (preview image data) 211 stored in the preview file 209 by the display apparatus 104. The preview file 209 is a file which is temporarily formed when the print preview is displayed by the display apparatus 104 and includes the print preview data (preview image data), print condition

information, preview display condition information, and the like.

[0023]

Subsequently, a series of operations of the print control function by the host computer 101 will be explained.

First, the application 201 forms an arbitrary document in accordance with an operating instruction from the user and instructs the execution of the printing of the document data (print data). Thus, the GDI 202 notifies the UI driver 203 of an event of print start.

[0024]

Subsequently, the application 201 stores the document data (print data) into the EMF spool file 204 via the GDI 202. At this time, the print condition information in the printer 102 has previously been stored in the EMF spool file 204 by the UI driver 203.

[0025]

The print processor 205 obtains the print condition information and the print data from the EMF spool file 204, supplies the print condition information and the print data to the printer graphics driver 206 page by page, and activates the previewer 208. By communicating with the previewer 208, the print processor 205 obtains the preview

display conditions such as numbers of the pages whose print preview is displayed by the display apparatus 104 and resolution and the like of a preview image which is used for displaying the print preview.

[0026]

The print processor 205 obtains the print conditions corresponding to the obtained page number from the EMF spool file 204 and stores them into the preview file 209. Further, the print processor 205 notifies the printer graphics driver 206 of a file name of the preview file 209 (hereinafter, referred to as a "preview file name"), the obtained print conditions, and the preview display conditions via the GDI 202. Thereafter, the print processor 205 obtains the print data from the EMF spool file 204, forms print data corresponding to the obtained page number (hereinafter, referred to as "print page data") from the obtained print data, and supplies the formed print data to the GDI 202.

[0027]

The printer graphics driver 206 forms bit map data for display of the print preview (hereinafter, referred to as "preview image data") or bit map data for printing (hereinafter, referred to as "print image data") from the print page data supplied from the print processor 205 on the basis of a graphics drawing command formed by the GDI 202 and the print

conditions and preview display conditions previously notified by the print processor 205.

[0028]

At this time, when the print image data is formed by the printer graphics driver 206, the printer graphics driver 206 supplies the print image data to the printer 102 via an arbitrary data transmitting unit (not shown). The printer 102 print-outputs the print image data supplied from the printer graphics driver 206 onto a sheet (210).

[0029]

When the preview image data is formed by the printer graphics driver 206, the printer graphics driver 206 stores the preview image data into the preview file 209 on the basis of the preview file name previously notified by the print processor 205. The print processor 205 notifies the previewer 208 of the preview file name.

[0030]

The previewer 208 receives the setting of the preview display conditions from the user and requests the print processor 205 to form the preview file 209 suitable for the set preview display conditions. When the previewer 208 receives the notification of the preview file name of the preview file 209 from the print processor 205, the previewer 208 obtains the preview image data from the preview file 209 and

displays the print preview (211) based on the preview image data by the display apparatus 104 on the basis of the set preview display conditions.

[0031]

<Print preview display screen>

Figs. 3 to 5 show examples of display screens 300 to 500 of the print preview (211) displayed by the display apparatus 104 by the previewer 208.

[0032]

Fig. 3 is a diagram showing the example of the print preview display screen 300 in the document formed by the application 201 in the case of print-outputting onto a media other than the CD-R media.

On the display screen 300 of Fig. 3, reference numeral "301" denotes an item column for allowing the user to select whether the print preview for the CD-R media is displayed or not. As shown in Fig. 3, in the case of print-outputting onto a media other than the CD-R media, "301" is invalid to prevent the user from selecting it.

[0033]

Fig. 4 is a diagram showing the example of the print preview display screen 400 for the CD-R media in the document formed by the application 201 in the case of print-outputting onto the CD-R media.

On the display screen 400 of Fig. 4, reference numeral "401" denotes an item column for

allowing the user to select whether the print preview for the CD-R media is displayed or not. As shown in Fig. 4, "401" is clicked in the case of print-outputting onto the CD-R media and in the case of displaying the print preview for the CD-R media.

Reference numeral "402" denotes a range which would be actually outputted onto the CD-R media.

Reference numeral "403" denotes contents which would be actually outputted onto the CD-R media.

Reference numeral "404" denotes contents which would be actually outputted to the CD-R media so as to overflow it.

[0034]

Fig. 5 is a diagram showing the example of the print preview display screen 500 in the document formed by the application 201 in the case of print-outputting onto the CD-R media.

On the display screen 500 of Fig. 5, reference numeral "501" denotes an item column for allowing the user to select whether the print preview for the CD-R media is displayed or not. As shown in Fig. 5, "501" is not clicked in the case of print-outputting onto the CD-R media and in the case where the print preview for the CD-R media is not displayed.

[0035]

<Display of print preview by the previewer 208>

Fig. 6 is a flowchart showing the operation



which is executed when the previewer 208 displays the print preview.

Attention is paid to a process in which the previewer 208 discriminates the displaying method of the display screens 300 to 500 shown in Figs. 3 to 5.

Step S601:

The previewer 208 discriminates whether the print data is printed to the CD-R media or not from the print condition information stored in the preview file 209. That is, whether a first mode of forming the image onto a recording medium such as a rectangular sheet or the like matched with a layout (for example, A4 size, B5 size, etc.) corresponding to the general application has been set or a second mode of forming the image onto, for example, a disk-shaped recording medium such as a CD-R or the like which is not matched with the layout corresponding to the general application has been set is discriminated from the print condition information. If it is determined as a discrimination result that the second mode has been set and in the case of printing the print data to, for example, the CD-R media, step S602 follows. In the case of printing to a media other than the CD-R media, step S603 follows.

[0036]

Step S602:

In the case of printing to the CD-R media as

a discrimination result of step S601, the previewer 208 validates the item column for allowing the user to select whether the print preview for the CD-R media is displayed or not (refer to "401" in Fig. 4).

[0037]

Step S603:

The previewer 208 displays the preview image by the display apparatus 104. Thus, a state of the display screen 300 in Fig. 3 or the display screen 500 in Fig. 5 is obtained.

[0038]

Step S604:

The previewer 208 discriminates whether the print preview for the CD-R media is displayed or not from the state of the item column for allowing the user to select whether the image formed in the second mode is displayed as a print preview for the CD-R media or not. As a discrimination result, if the print preview for the CD-R media is displayed, step S605 follows. If the print preview for the CD-R media is not displayed, the present processing routine is finished.

[0039]

Step S605:

In the case of displaying the print preview for the CD-R media as a result of the discrimination in step S604, the previewer 208 displays the print

preview for the CD-R media onto the display apparatus 104, so that a state of the display screen 400 in Fig. 4 is obtained. The present processing routine is finished.

[0040]

The media which can be applied to the embodiment is not limited to the CD-R but it is possible to use an arbitrary media such as DVD, CD-ROM, or the like which is not formatted by the general application. In other words, when a special type of media which is not formatted by the general application is set, it is sufficient to read out and recognize information showing a preset printable area of the special media and display a frame of the printable area onto the preview image so that it can be discriminated.

[0041]

Although the boundary between the portion corresponding to the inside of the CD-R and the portion corresponding to the outside is shown by the line in the foregoing embodiment, it is sufficient to display the portion corresponding to the inside and the portion corresponding to the outside so that they can be discriminated by the user. For example, there is a method of displaying both areas in different colors such as method of changing density, brightness, or the like of the areas, or the like. If data

arranged in an unprintable area is printed as it is, the printer prints on the outside of the media. Therefore, the user's attention is aroused by such a method. The user can see the preview image, change the layout of the image, confirm by the preview image again, and print.

[0042]

As described above, in the present embodiment, when the print preview of the print data is displayed before the print data such as a document or the like is actually print-outputted onto the sheet, in the case of print-outputting onto the CD-R media, not only the contents which would be outputted onto the sheet selected by the application are displayed but also the portion which is actually outputted onto the CD-R media and the portion which is outputted to the CD-R media so as to overflow it are displayed so that the difference between those portions can be visually discriminated.

[0043]

According to the foregoing construction, in the case of print-outputting onto the CD-R media, the user can accurately confirm the contents which would be outputted onto the CD-R media. Therefore, it is possible to prevent that the dedicated tray which is set into the printer is dirtied. The print preview function of better use convenience can be provided.

[0044]

The invention is not always limited to the embodiments but can be embodied in various forms.

Naturally, the object of the invention is also accomplished by a method whereby a memory medium in which program codes of software for realizing the functions of the host and the terminals of the embodiments have been stored is supplied to a system or an apparatus and a computer (or a CPU or an MPU) of the system or the apparatus reads out the program codes stored in the memory medium and executes them.

[0045]

In this case, the program codes read out from the memory medium realize the functions of the embodiments and the memory medium in which the program codes have been stored and the program codes construct the invention.

[0046]

As a memory medium to supply the program codes, a ROM, a flexible disk, a hard disk, an optical disk, a magnetooptic disk, a CD-ROM, a CD-R, a magnetic tape, a non-volatile memory card, or the like can be used.

[0047]

Naturally, the invention incorporates not only a case where a computer executes the read-out program codes, so that the functions of the

embodiments are realized but also a case where an OS or the like which is operating on the computer executes a part or all of actual processes on the basis of instructions of the program codes and the functions of the embodiments are realized by those processes.

[0048]

Further, the invention incorporates a case where the program codes read out from the memory medium are written into a memory provided for a function expanding board inserted in a computer or a function expanding unit connected to a computer and, thereafter, a CPU or the like provided for the function expanding board or the function expanding unit executes a part or all of actual processes on the basis of instructions of the program codes and the functions of the embodiments are realized by those processes.

[0049]

[Effect of the Invention]

According to the present invention, when the image is formed to the recording medium such as a CD-R or the like, control is made so as to display the image onto the recording medium so that the portion corresponding to the inside and the portion corresponding to the outside can be discriminated. Thus, the image which is printed onto the recording

medium so as to overflow it can be previously grasped and the preview function of better use convenience can be provided.

[Brief Description of the Drawings]

[Figure 1]

A block diagram showing a schematic construction of a print system according to an embodiment of the invention.

[Figure 2]

A functional constructional diagram in the case where attention is paid to, particularly, a print control function in the print system according to the embodiment of the invention which is realized when a host computer executes a predetermined processing program.

[Figure 3]

A diagram showing an example of a print preview display screen which is displayed by a display apparatus in the case of print-outputting onto a media other than a CD-R media.

[Figure 4]

A diagram showing an example of a print preview display screen for the CD-R media which is displayed by the display apparatus in the case of print-outputting onto the CD-R media.

[Figure 5]

A diagram showing an example of a print

preview display screen which is displayed by the display apparatus in the case of print-outputting onto the CD-R media.

[Figure 6]

A flowchart showing the operation which is executed when a previewer displays the print preview according to the embodiment of the invention.

[Description of Reference Numerals or Symbols]

- 100 ... print system
- 101 ... host computer
- 102 ... printer
- 103 ... hard disk apparatus
- 104, 212 ... display apparatuses
- 105 ... data input device
- 106 ... media reading apparatus
- 107 ... communication control apparatus
- 201 ... application
- 202 ... GDI
- 203 ... user interface driver
- 204 ... EMF spool file
- 205 ... print processor
- 206 ... printer graphics driver
- 207 ... printer
- 208 ... previewer
- 209 ... preview file
- 210 ... sheet
- 211 ... print preview



[Name of the Document]          Abstract

[Abstract]

[Object]

According to the present invention, an image which is printed onto a recording medium (for example, a CD-R media) so as to overflow it can be previously grasped.

[Means for Achieving the Object]

The host computer 101 forms an image on the basis of an application, and display the image on the display apparatus 104 so that a portion corresponding to an inside of a CD-R media of the formed image and a portion corresponding to an outside of the CD-R media can be discriminated.

[Elected Drawing]

Figure 1